

REMARKS

I. Status of Claims

Claims 30-58 are pending and stand rejected. In this amendment, claims 30, 46, and 54 have been amended to clarify when two or more layers are formed on a conveyor belt, these layers are successive/overlapping, *i.e.*, one layer is on top of another layer. The scope of the claims have not been narrowed or broadened by this amendment since the relationship between the layers was already inherent to the claims. Exemplary support for the amendments can be found throughout the specification, for example at pages 3-5, 12, and in the drawings, for example layers 25, 26, and 27 of Figure 3, and claims as originally filed. Applicant submits that the amended claims have full Section 112 support and, thus, no new matter has been added by these amendments.

Applicant respectfully acknowledges that the Office has withdrawn the Section 103 rejection based on EP 0 953 628 A1 to Zucchelli et al. ("Zucchelli") in view of U.S. Patent No. 5,056,998 to Goossens. See Office Action at 2-7.

II. Examiner Interview

Applicant thanks Examiner Mashruwala and the Examiner's supervisor, Carl Price, for their time on November 12, 2010, to conduct an interview with the Applicant's representatives. During the interview, Applicant's representatives sought clarification of statements made in the Section 112 rejection of the Office Action. First, there was a discussion regarding the indefiniteness of "overlapping layers." Applicant's representative explained that the layers are successive layers, as shown in Figure 3,

and that they layers were on contact with each other. The Examiners suggested that language may be added to the claims explaining that the layers have top and bottom surfaces that are in contact. Second, there was a discussion that Applicant's invention is not limited to "three separate layers of three different materials/densities." Applicant's representative explained that the claims are directed to two or more layers, that three layers are described in the specification and Figures as preferred embodiments, and that varying densities is yet another embodiment of the invention. These alternative embodiments are exemplified by dependent claims 46 and 47. It is the understanding of Applicant's representative that the Examiner had not intended to represent that the independent claims were limited to "three separate layers of three different materials/densities."

III. Section 112 Rejection

In the Office Action mailed August 3, 2010, the Office rejects claims 30 and 54 under 35 U.S.C. § 112 for allegedly "being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The limitation of '**overlapping layers**' is not clear." Office Action at 2. Applicant disagrees, but following a telephonic interview with the Examiners, Applicant has amended the claims to be in line with the Examiners' suggestion to resolve any alleged indefiniteness.

Accordingly, Applicant submits the rejection is moot and should be withdrawn.

IV. Section 103 Rejections

The Office also rejects claims 30-58 under 35 U.S.C. § 103(a) as allegedly “being unpatentable” over U.S. Patent No. 6,152,974 to Delpiano et al. (equivalent EP 0 930 353, “Delpiano”) in view of U.S. Patent No. 6,375,691 to Zucchelli et al. (equivalent EP 0 953 628, “Zucchelli”) and further in view of U.S. Patent No. 3,655,098 to Schnitzler (“Schnitzler”), for the reasons provided at pages 3-7 of the Office Action. Applicant respectfully disagrees and traverses for the reasons set forth below.

With respect to obviousness, several basic factual inquiries must be made in order to determine the obviousness or non-obviousness of claims under 35 U.S.C. § 103. These factual inquiries, set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 U.S.P.Q. 459, 467 (1966), require the Examiner to:

- (1) Determine the scope and content of the prior art;
- (2) Ascertain the differences between the prior art and the claims in issue;
- (3) Resolve the level of ordinary skill in the pertinent art; and
- (4) Evaluate evidence of secondary considerations.

The obviousness or nonobviousness of the claimed invention is then evaluated in view of the results of these inquiries. *Graham*, 383 U.S. at 17-18, 148 U.S.P.Q. at 467; *see also KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1730, 82 U.S.P.Q.2d 1385, 1388 (2007).

The Office asserts that, “Delpiano discloses a process for producing a refuse derived solid fuel and feeding said fuel to a combustion plant . . . which comprises: providing a first component USW consisting of a dry fraction of solid urban waste USW in a shredded form . . . providing at least one second component in a shredded form selected from an elastomeric material . . . and a polymeric thermoplastic material B, (or

mixtures thereof).” Office Action at 3. The Office also asserts that Delpiano “discloses metering of these shredded components separately according to predetermined ratios in part D of mixing” *Id.* However, the Office admits that Delpiano “does not disclose feeding these shredded components on a continuous conveyer to form layers of shredded components in a temporary accumulation container.” *Id.*

The Office nonetheless asserts that Schnitzler “discloses feeding and forming different materials/components to form different layers of the materials per fig 2 (3 different materials are separately metered and feeded to form overlapping layers 114a, 203a and 303a per fig 2) on a continuous conveyer 16.” *Id.* at 3-4. The Office further argues that it “would have been obvious for a person of ordinary skill in the art at the time the invention was made to provide such continuous conveyer to get different layers to Delpiano in view of Schnizler [sic] so that the mixture of the overlapping layers of varying bulk density would have better combustible properties.” *Id.* at 4.

The Office also admits that “[n]either Delpiano nor Schnizler [sic] discloses a temporary container for storage.” *Id.* The Office argues, however, that it “would have been obvious for a person of ordinary skill in the art to be installed to the system of Delpiano (& Schnitzler) in view of Zucchelli so that the storage material of the shredded material layers can transported to a combustion plant for using as a fuel.” *Id.*

**A. No Basis to Combine Delpiano with Schnitzler
and Have a Reasonable Expectation of Success**

As argued by the Office, the basis for a person of ordinary skill in the art to add the layering process of Schnitzler to the process of Delpiano is:

[it] would have been obvious for a person of ordinary skill in the art at the time the invention was made to provide such continuous conveyor to get different layers to Delpiano in view of Schnitzler [sic] so that the mixture of the overlapping layers of varying bulk density would have better combustible properties.

Id. at 4. However, there is no evidence in the record to allow the Office to conclude that a person of ordinary skill in the art would reach this conclusion and have any reasonable expectation of success.

In light of the differences between the process and apparatus disclosed in Delpiano and that disclosed in Schnitzler, a person skilled in the art would not combine these references in the manner suggested. Delpiano seeks to make a solid combustible composition while avoiding inconsistent calorific power and also avoiding agglomerating the components into granules or bricks. See Delpiano at col. 1 lines 23-33. This goal is accomplished by triturating and mixing the USW, non-elastomeric plastic, and elastomeric materials together into a single shredded composition. See, e.g., Delpiano at col. 2 lines 36-65.

Schnitzler, on the other hand, teaches that its component materials are not to be mixed together at all, but rather are separated and placed in successive, overlapping layers. See Schnitzler at col. 3 lines 51-56 (“[T]he individual layers are superimposed one upon another on the processing conveyor band with the aid of individual depositing conveyors each of which forms the respective layer from a stationary pile of the corresponding comminuted materials”). There is no teaching that suggests to a person skilled in the art that Schnitzler’s process will yield “better combustible properties,” as alleged by the Office.

In fact, contrary to the Examiner's assumption, a person of ordinary skill in the art reading Schnitzler and Delpiano would believe that the layering process of Schnitzler is **more** likely to **cause** inconsistency in calorific power because the individual components in layers would involuntarily agglomerate due to a lack of mixing. First, a person skilled in the art would recognize that the **only** reason Schnitzler provides for layering the materials is to help achieve agglomeration of the layers to form a layered fiberboard. *See, e.g.*, Schnitzler at col. 1 lines 7-11. In its Background Section, Schnitzler explains that fiberboard has substantially uniform, superimposed layers and that prior art methods were perceived as disadvantageous because the layers were not separate and homogeneous. Second, in addition to teaching that mixing together the materials was needed to avoiding inconsistent calorific power, Delpiano teaches a person of ordinary skill in the art to avoid forming the agglomerated mixtures, such as of Schnitzler, because they cause problems with "some kinds of boilers and burners . . . [which] can not be fed with a combustible agglomerated into granules or bricks." Delpiano at col. 1 lines 25-28.

In sum, one of ordinary skill in the art would not have a reasonable expectation of success from modifying Delpiano to include the layering process from Schnitzler because Delpiano teaches the need to avoid unintentional agglomeration, whereas Schnitzler's process relies upon and is aimed to achieve intentional agglomeration. Hence, in accordance with the Examination Guidelines Update for obviousness after KSR, Applicant's invention is non-obvious and the rejection should be withdrawn as improper. Examination Guidelines Update, 75 Fed. Reg. 53643, 53649 (Sept. 1, 2010) ("An inference that a claimed combination would not have been obvious is especially

strong where the prior art's teachings undermine the very reason being proffered as to why a person of ordinary skill would have combined the known elements.”).

**B. No Basis to Combine Delpiano with Zucchelli
and Have a Reasonable Expectation of Success**

The mere fact that a storage device is known (and Applicant does not deny that waste storage devices, such as 14, are known), does not render a claim obvious. “[I]n formulating a rejection under 35 USC § 103(a) based upon a combination of prior art elements, it remains necessary to identify the reason why a person of ordinary skill in the art would have combined the prior art elements in the manner claimed.”

Memorandum from Margaret A. Focarino, Deputy Commissioner for Patent Operations, to Technology Center Directors (May 3, 2007).

Here, the Office argues, that “Zucchelli discloses a temporary storage 14 at the end of conveyor belt 19 (similar to silo 44 or 46) which would have been obvious for a person of ordinary skill in the art to be installed to the system of Delpiano (& Schnitzler) in view of Zucchelli so that the storage material of the shredded material layers can be transported to a combustion plant for using as a fuel.” Office Action at 4. However, a review of the record shows that the Office has no legitimate basis for this argument.

First, the Office has offered no reasoning why a person skilled in the art would even consider Zucchelli. Whereas Delpiano and Schnitzler concern providing materials to achieve a desired product, Zucchelli’s conveyor 19 and storage device 14 are directed to the removal and disposal of waste materials. Zucchelli, col. 6, lines 21-25. These teachings are being applied for different purposes.

Second, contrary to the Office's allegations, Zucchelli makes no mention of the use of a temporary storage so as to allow transport to a combustion plant. In fact, except for showing element 14 in Figure 8, there is no disclosure in Zucchelli regarding any alleged benefits of element 14.

The Office has provided no independent (i.e., without consideration of applicant's specification) for a person skilled in the art to add temporary storage to Delpiano with any reasonable expectation of success and, thus, the rejection should be withdrawn as improper.

C. The Obviousness Rejection Improperly Relies on Hindsight

The Office improperly uses Applicant's specification as a blueprint to select references as the basis for its obviousness rejection. The Office stated that "[i]t would have been obvious for a person of ordinary skill . . . to provide such a continuous conveyor to get different layers to Delpiano in view of Schnizler [sic] so that the mixture of the overlapping layers of varying bulk density would have better combustible properties." Office Action at 4. Applicant respectfully disagrees for the following reasons.

There is no teaching in the references cited by the Office to suggest to a person of ordinary skill in the art that modifying Delpiano in view of Schnitzler would yield better combustion properties. Delpiano seeks to obtain better combustion by using a knife trituration device and by mixing components together thoroughly, and no disclosure from Schnitzler (a process for producing fiberboard) teaches that a better solid combustible fuel can be obtained otherwise. Only Applicant's specification teaches that

better combustible properties result from forming successive layers of USW and at least one second component selected from an elastomeric material and a thermoplastic material (or mixtures thereof) on a continuous conveyor and discharging the components into a temporary accumulation container.

One of ordinary skill in the art would have no reasonable expectation of success for obtaining better combustion properties by starting with a process that relies on thorough mixing and then removing all mixing steps in favor of implementing select portions of a process for making fiberboard. It is Applicant's specification that first discovered that these steps, coupled with the addition of a temporary accumulation container, would give good combustion properties.

Similarly, the Office improperly applies hindsight to conclude that it "would have been obvious" to a person of ordinary skill in the art to install a temporary storage such as that disclosed in Zucchelli "to the system of Delpiano (& Schnitzler) in view of Zucchelli so that the storage material of the shredded material layers can be transported to a combustion plant for using as fuel." Office Action at 4. There is no teaching in the references cited by the Office that would direct a person of ordinary skill in the art to adding a temporary storage container to Delpiano or Schnitzler. Only Applicant's specification teaches that better combustible properties can be obtained by depositing the successive layers of USW and at least one second component formed on the continuous conveyor into a temporary accumulation container. Indeed, using a temporary accumulation container in either Delpiano or Schnitzler would seem to be either unnecessary or disadvantageous, and thus one of ordinary skill in the art would have no reason to add such an element without first consulting Applicant's specification.

For the foregoing reasons, Applicant submits that the Office's 35 U.S.C. § 103(a) rejection of independent claims 30 and 54 should be withdrawn. Because claims 31-53 and 55-58 depend from claim 1 and 54, the present rejection should be withdrawn for these claims as well.

V. Conclusion

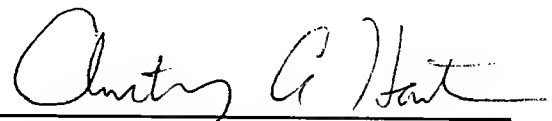
In view of the foregoing amendments and remarks, Applicant respectfully requests reconsideration of this application and the timely allowance of the pending claims. If the Examiner believes a telephone conference could be useful in resolving any outstanding issues, she is respectfully invited to contact Applicant's undersigned counsel at (202) 408-4275.

Please grant any extensions of time required to enter this response and charge any additional required fees to our Deposit Account No. 06-0916.

Respectfully submitted,

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